



KENTUCKY'S BUCKS FOR BRAINS INITIATIVE

THE VISION THE INVESTMENT THE FUTURE

1997 - 2007

At this 10th anniversary of postsecondary education reform, this brochure provides an overview of Kentucky's historic investment in an innovative endowment match program (Bucks for Brains) and a summary of its short-term outcomes.

**KENTUCKY COUNCIL ON
POSTSECONDARY EDUCATION**



THE VISION

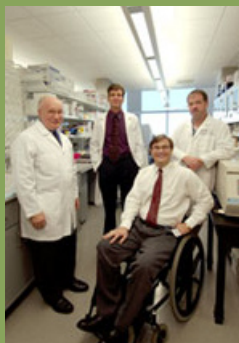
The Kentucky Postsecondary Education Improvement Act of 1997 (HB 1) created the Strategic Investment and Incentive Funding Program (codified as KRS 164.7911) to provide strategic financial incentives to advance postsecondary education. Six distinct trust funds were created: Research Challenge, Regional University Excellence, Technology Initiative, Physical Facilities, Postsecondary Workforce Development, and Student Financial Aid and Advancement.

The Endowment Match program, also known as the "Bucks for Brains" initiative, was established through the 1998 biennial budget and was designed to attract top researchers to Kentucky.

"The Bucks for Brains program has demonstrated . . . that Kentucky's citizens think education is important as a personal investment. The program has demonstrated the importance of higher education research to the development of Kentucky's economy and to the creation of solutions for Kentucky's health and socioeconomic problems."

*- Paul Patton
Governor, Commonwealth of Kentucky
1995 - 2003*

UNIVERSITY OF KENTUCKY



Future Treatments for Spinal Cord Injury

The University of Kentucky's Spinal Cord and Brain Injury Research Center (SCoBIRC) is focused on effective treatments for the estimated 11,000 Americans who suffer spinal cord injuries each year and the 1.5 million who sustain traumatic brain injuries. Edward Hall, an endowed chair and director of SCoBIRC, is leading a team of scientists to test various drugs that might inhibit secondary injury to the brain or spinal cord. The team includes Jim Geddes, Patrick Sullivan, Kathryn Saatman, and Alexander Rabchevsky (SCoBIRC), Stephen Scheff (Sanders-Brown Center on Aging), and Joe Springer (physical medicine and rehabilitation). Hall was a pioneer in the discovery and development of the steroid drug methylprednisolone, the only approved drug that has been shown to be effective for the treatment of spinal cord injury. He is hopeful that the protective effects of the newer drugs being tested by his group will far surpass the benefits of methylprednisolone.



New Treatments for Nicotine and Methamphetamine Abuse

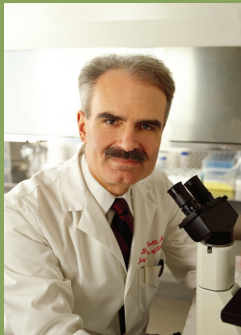
Dr. Linda Dwoskin, a professor of pharmaceutical sciences and U. S. Surgical-Pfizer Endowed Professor, is currently involved in two related projects - one focused on nicotine and the other on methamphetamine. She is teaming up with UK colleagues Peter Crooks, the George A. Digenis Professorship/Chair in Drug Design and Discovery in the College of Pharmacy, and Dr. Michael Bardo, department of psychology. The research team is trying to find small molecules that block receptors and transporter proteins responsible for the "reward" associated with nicotine and methamphetamine use. These molecules might serve as novel therapeutic agents to help those who are addicted to drugs. The nicotine study is partially supported by a \$6 million grant from The National Institutes of Health (NIH) and is the largest single award ever received by the UK College of Pharmacy.

UNIVERSITY OF LOUISVILLE



Research in Biomechanical Engineering

Gina Bertocci, Ph.D., is the Charles A. Grosscurth Biomechanics Chair in Bioengineering and director of the Injury Risk Assessment and Prevention Laboratory at UofL. She studies the biomechanics of injury and rehabilitation and focuses primarily on child abuse and wheelchair transportation safety. In the child abuse area, her research team uses engineering techniques and medical principles to delineate between abusive and accidental injuries. Bertocci's wheelchair transportation safety research utilizes computer simulation and testing to understand the level of injury risk that someone seated in a wheelchair might experience during a crash, allowing manufacturers to design safer wheelchairs.



Treating Cardiovascular Disease

Roberto Bolli, M.D., is the Jewish Hospital Heart and Lung Institute Distinguished Chair of Cardiology and the director of the division of cardiology and UofL's Institute for Molecular Cardiology. His research focuses on preventing the damage caused during heart attacks by studying ischemic preconditioning, the phenomenon in which heart muscle exposed to brief periods of stress becomes resistant to the tissue death that might be caused by a heart attack. Since his arrival at UofL in 1994, Dr. Bolli has brought over \$50 million in NIH grants to the university. Dr. Bolli is now working to determine whether gene therapy or other strategies that increase myocardial nitric oxide and carbon monoxide levels result in long-term protection against heart failure.

The Bucks for Brains (B4B) program requires that universities match the state funds with donations from philanthropists, corporations, foundations, and other non-profit agencies. Public and private matched funds are invested and the earnings fund faculty positions, programs, or scholarships. The invested principal remains untouched in order to provide a perpetual source of funding to ultimately meet the goals of HB 1 through the commercialization of research, the creation of knowledge economy jobs, and the improvement of Kentucky's economy and standard of living.

The University of Kentucky and the University of Louisville receive state B4B funds through the Research Challenge Trust Fund. B4B funding for the comprehensive universities is appropriated through the Regional University Excellence Fund.

“With focused investment of Bucks for Brains funding, the potential for groundbreaking translational research is maximized. The recently released cervical cancer drug is an excellent example of the potential impact . . . to improve the lives of Kentuckians.”

*- Ron Greenberg
Executive Director, Cardiovascular Innovation Institute
Jewish Hospital and St. Mary's Healthcare
Former Chair, Council on Postsecondary Education*

THE INVESTMENT

From 1997 to 2007, the state of Kentucky invested over \$350 million to increase intellectual capital and infuse a new research agenda for Kentucky postsecondary education including:

- **\$110 million** from the General Fund in the 1998-00 biennial budget.
- **\$120 million** from the General Fund in the 2000-02 biennial budget.
- **\$120 million** from the sale of taxable bonds in the 2002-04 biennial budget.

When fully matched with private donations, this represents over **\$700 million** added to the endowments of Kentucky's public universities.

EASTERN KENTUCKY UNIVERSITY

Research & Enhanced Teaching

Dr. Jacqueline Jensen is the first Hazel Wilson Memorial Endowed Chair, made possible through a donation from 1934 EKU alumnus Vernon Wilson in memory of his wife of 50 years. The endowment enables Dr. Jensen to conduct research in middle school, high school, and college classrooms. Although her primary goal is to enhance teaching across the state, Dr. Jensen has studied and published articles about professionalism and professional ethics, the application of constructivist learning theories, and the recruitment of students into family and consumer sciences education. Dr. Jensen is a Fellow of the Kappa Omicron Nu Leadership Academy and is currently at work on a book that documents student reasoning of ethical dilemmas.



KENTUCKY STATE UNIVERSITY

Successful Fundraising Campaign

Kentucky State University has utilized Bucks for Brains funding to complete a highly successful fundraising campaign entitled "Kentucky's Vision 2020 Endowment Match Campaign." The campaign resulted in the creation of three endowed professorships in business, math/science, and education; an endowed library fund; and endowed student scholarships. The creation of the three endowed professorships has been complemented by the development of unique academic programs and the construction of a new genetics laboratory.



Private Gifts Leveraged Through Bucks for Brains Program

(as of June 30, 2006)

University of Kentucky	\$153,722,882
University of Louisville	82,731,805
Eastern Kentucky University	10,213,837
Kentucky State University	1,745,683
Morehead State University	6,645,655
Murray State University	8,380,683
Northern Kentucky University	8,033,753
Western Kentucky University	10,746,183
Total	\$282,220,481

THE RETURN ON INVESTMENT



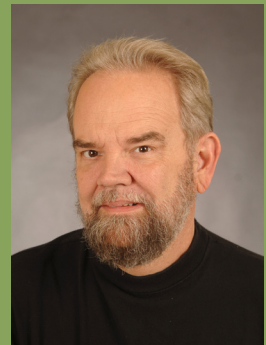
As of 2006, Kentucky's public universities demonstrated the following returns on the B4B investment:

- 47 percent increase in annual giving at UK and UofL.
- \$1 billion increase in the market value of endowment assets at UK and UofL.
- 159 B4B endowed chairs and 227 endowed professorships appointed at Kentucky's public universities.
- 17 percent (approximately) of all federal R&D expenditures generated by B4B faculty.
- 14 percent (approximately) of all extramural R&D expenditures generated by B4B faculty.
- 16 percent (approximately) of all licenses/options generated by B4B faculty.
- 30 percent (approximately) of Kentucky's new U.S. patent applications generated by B4B faculty.
- 36 percent (approximately) of Kentucky start-up companies dependent on university-generated technology created by B4B faculty.

MOREHEAD STATE UNIVERSITY

Theater in the Schools Program

Dr. Robert Willenbrink, professor of theater and chair of the department of communication and theater, was selected as the W. Paul and Lucille Caudill Little Foundation Endowed Chair to oversee the development of a traveling performance troupe appropriately named The Little Company. The mission of the troupe is to annually produce plays and educational materials that tour the elementary, middle, and secondary schools throughout the region and the state. The Little Company promotes academic excellence and provides unique artistic opportunities for performers and audiences alike while exposing students, many for the first time, to the magic of live theater.



MURRAY STATE UNIVERSITY

Financial Planning Programs & Certification

The Arthur J. Bauerenfeind Endowed Chair in Investment Management was the first endowed chair established at MSU as a result of Bucks for Brains and has resulted in the creation of a new program, the financial planning concentration, within the department of finance and economics. Dr. David Durr works to enhance regional recognition for the program through speaking engagements, seminars, and meetings. Recently he developed a student internship program in partnership with Security Benefit, a nationally recognized leader in financial services. This program provides undergraduate and graduate students with hands-on work experience relevant to their academic and career goals.



NORTHERN KENTUCKY UNIVERSITY

Strengthening Undergraduate Research

The Bucks for Brains program has played a pivotal role in elevating NKU's Center for Integrative Natural Science and Mathematics (CINSAM) to new heights. The mission of CINSAM is to enhance the teaching, learning, and applied science and mathematics at NKU and surrounding K-12 schools. Additionally, the new Dorothy Westerman Herrmann Science Center has secured B4B endowed funds to ensure that state-of-the-art lab and teaching equipment will remain current. The research activity of students in CINSAM-related departments has more than tripled over the past seven years. Students regularly present their research findings at local, state, and national meetings and several have published their findings in scholarly professional journals.



“The consequences and impact of the Bucks for Brains program have been far-reaching Economic development is advanced at the University of Louisville through enhanced pure research dollars, the multiplier effect of related research investment, and the commercialization of translational research. Most importantly, the quality of life for Kentuckians is improved when citizens are able to be treated locally for diseases such as Parkinson’s.”

*- James Ramsey
President, University of Louisville*

WESTERN KENTUCKY UNIVERSITY

Physics Research and Outreach

Dr. Charles McGruder serves as the William McCormack Professor in Physics, a named professorship created through the Regional University Excellence Trust Fund. Dr. McGruder receives a reduced teaching load so he may conduct research, travel in pursuit of his research, and participate in national academic and community service. He is involved in WKU's project to develop a worldwide network of robotically operated small telescopes. He also leads a National Aeronautics and Space Administration (NASA) grant to work with historically black colleges to encourage students of color to pursue doctoral degrees in the sciences, including consulting to organize an annual conference aimed at engaging minority students in science research.



“I recall spending an evening meeting some of the Bucks for Brains professors. It was an exhilarating experience to talk with such bright folks who were so happy to be in Kentucky and who thought that Kentucky had a great opportunity to make some real contributions through research. Several of the medical professors talked about their hope of finding cures for diabetes and cancer and other devastating illnesses that are so prevalent in Kentucky.”

*- Jody Richards
Speaker of the House, Kentucky General Assembly*



Kentucky's investment in the Bucks for Brains program has successfully:

- Increased private donations to universities.
- Grown university endowments.
- Expanded endowed chairs and professorships.
- Enhanced intellectual capital at Kentucky's universities.
- Attracted significant increases in externally sponsored research.

For more information about the Bucks for Brains program, visit the Council's Web site at <http://cpe.ky.gov>.

“Sustain and strengthen the nation's traditional commitment to long-term basic research that has the potential to be transformational to maintain the flow of new ideas that fuel the economy, provide security, and enhance the quality of life.”

*- Rising Above the Gathering Storm
The National Academy of Sciences,
2006, Pg. 4*





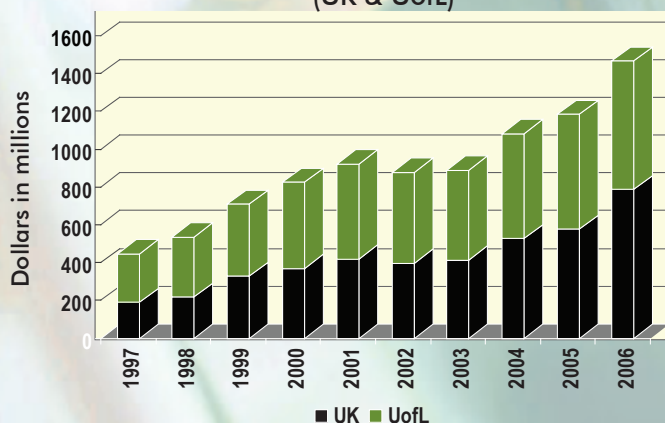
Bucks for Brains Program Indicators of Progress Combined UK and UofL Data*

(dollars in millions)

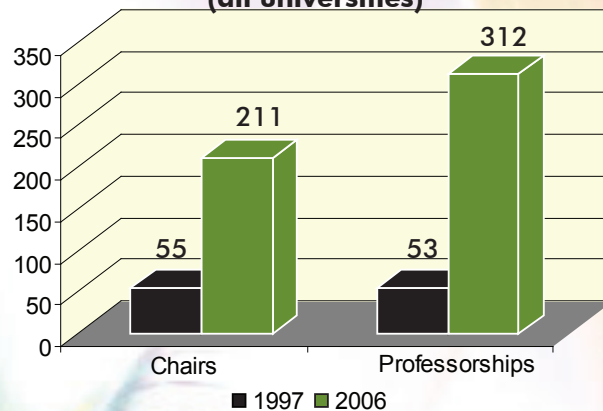
Indicator	1997	2000	2003	2004	2005	2006
Annual Giving	\$87.7	\$92.5	\$87.6	\$97.1	\$119.4	\$128.6
Endowment Market Value	\$447.4	\$823.9	\$887.5	\$1,081.4	\$1,184.4	\$1,465.4
Endowed Chairs	53	125	164	178	190	199
Endowed Professorships	49	136	201	211	218	256
Federal R&D Expenditures	\$75.6	\$91.6	\$159.9	\$184.4	\$209.9	\$221.7
Extramural R&D Expenditures	\$105.2	\$147.1	\$249.5	\$284.4	\$309.7	\$327.4
Invention Disclosures Received	70	94	92	141	142	157
New Patent Applications Filed	33	50	52	73	86	43
Licenses & Options Executed	6	16	17	15	21	31
Active Licenses & Options	59	67	77	86	116	142
Start-Up Companies Formed	0	6	2	6	7	11

*Based upon data available for the two research institutions submitted to the Association of University Technology Managers Annual Survey (AUTM)

Market Value of Endowment Assets (UK & UofL)

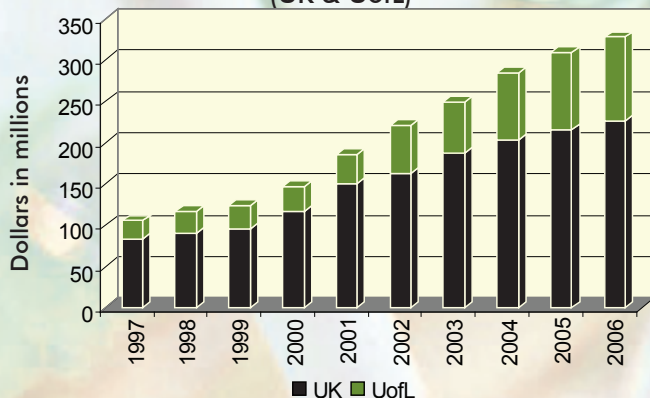


Endowed Chairs and Professorships (all universities)*



*Currently funded, but not all appointed

Extramural R&D Expenditures (UK & UofL)



Private Gifts Leveraged (all universities)

